

Testing Ohm's Law

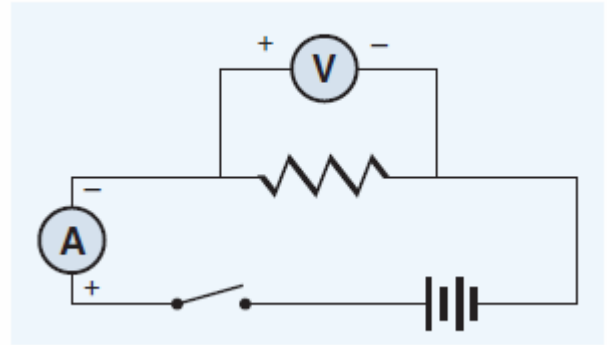
Student Name: _____

Question:

If you change the potential difference in a circuit, how does it affect the current and resistance?

Related Theory

In this investigation, you will measure the potential difference across a resistor in a circuit and the current through the resistor. By changing the potential difference, you will learn about the relationships among current, potential difference, and resistance. Connect a basic circuit as shown in the diagram.



Purpose: *Write a purpose below for this lab.*

Materials:

1 voltmeter	6 leads
1 ammeter	1 switch
1 D battery	1 resistor

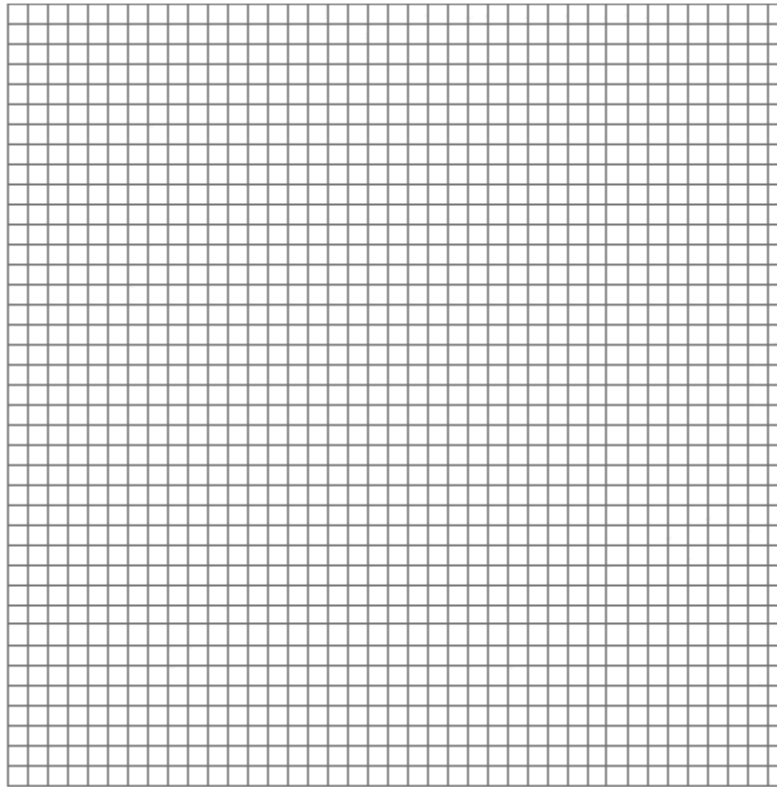
Procedure: *Create a procedure below for this lab.*

Observations:

Record the potential difference between the ends of the resistor, and the current through the resistor. Calculate the resistance for each.

Number of Cells	Voltage (V)	Current (mA)	Resistance (Ω)
1			
2			
3			

On the graph below, plot a line to represent the data obtained. Put Voltage on the vertical axis and Current on the horizontal axis. Draw a line of best fit. Include proper titles.



Analysis:

Discussion: *Complete the discussion below for this lab.*

1. Explain the relationship between the slope of your graph and the resistance of the resistor.

2. How does changing the potential difference in a circuit affect the current and resistance?

Conclusion: *Write a conclusion below for this lab.*
